

REMARKS

By this Amendment, no claims have been amended. Accordingly, claims 1-7 are pending in the application. No new matter has been added.

Claim Rejections – 35 U.S.C. § 103(a) (Sobajima/Brehm/Skubon)

Having indicated that all previous rejections have been overcome by Applicants' arguments, the Examiner has now rejected all pending claims under 35 U.S.C. 103(a) as obvious over a combination of one previously cited reference with two newly cited references: Sobajima (U.S. 5,747,576), Brehm (U.S. 7,019,048), and Skubon (U.S. 3,941,743)¹. The Examiner contends that Sobajima discloses a polypropylene resin including talc, suitable for molding an automotive part. The talc is present at 0.1-80 parts by weight and the talc particles may be 1.5 to 20 microns in size, with specific examples including talc particles of 3.9 and 9.1 microns. Sobajima broadly discloses the use of pigments and additives.

The Examiner further contends that Brehm discloses molded polypropylene parts including aluminum particles (i.e., lustrous pigment) having a size of 10-200 microns, where the aluminum particles can have the shape of a platelet.

The Examiner contends that Skubon discloses the shape of the lustrous pigments, which can impart a metallic effect to a polymer composition and that such shapes can be flake, platelet, spherical, granular or subgranular. The Examiner believes that the use of pigments such as aluminum of any shape gives a composition a metallic look.

Applicants traverse the rejections. The combination of cited references fails to disclose or fairly suggest all elements of the rejected claims. Hence, the rejections cannot be sustained. The present invention teaches a polymer blend comprising by weight from about 3% to about 12% metal particles component, from about 30% to about 60% talc, and from about 35% to about 70% olefinic thermoplastic polymer. The metal component comprises aluminum particles

¹ It is noted that the Office Action includes a 35 U.S.C. 103(a) rejection involving "Sobajima (US 5,883,174)". Applicants fail to find a reference to U.S. 5,883,174 (Akagawa) anywhere in the present or a previous Office Action, or the IDS filed 8/20/2004, or in the specification of the application, or anywhere in the file wrapper accessible through Private PAIR. Hence it is believed the reference is in error, and that the Examiner intended Sobajima U.S. 5,747,576 as cited in the first Office Action. Similarly, it is believed the reference to "SUGIMOTO" in the present Office Action is in error, as that patent does not contain the subject matter for which it is apparently cited, ("[a] composition for molding an automotive part...[comprising] 0.1-80 parts by weight of talc..."). Applicants find no mention of 0.1-80 parts by weight of talc in Sugimoto (U.S. 2005/0250892). Sobajima does disclose 0.1-80 parts of talc. It is believed that both the mention of "U.S. 5,883,174" and "SUGIMOTO" in the Office Action of February 14, 2007 are intended to refer to Sobajima. This Amendment is filed on that basis.

having an undefined configuration and an average particle size of from about 200 microns to about 400 microns.

The standard for an obviousness rejection is defined by 35 U.S.C. § 103(a). The Examiner bears the burden of establishing a *prima facie* case of obviousness. *In re Rijckaert*, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). If the references cited by the Examiner fail to establish a *prima facie* case of obviousness, then the rejection is improper and should be overturned. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). A proper analysis of prior art references underlying an obviousness rejection requires, a consideration of at least two factors: (1) whether the prior art would have suggested to those of ordinary skill in the art that they should make the claimed composition or device, or carry out the claimed process; and (2) whether the prior art would also have revealed that in so making or carrying out, those of ordinary skill would have a reasonable expectation of success. *In re Vaack*, 947 F.2d 488, 473, 20 USPQ2d 1438, 1440 (Fed. Cir. 1991). The prior art references, when combined, must teach or suggest all the claim limitations. *Id.* Both the suggestion and the reasonable expectation of success must be found in the prior art, not in the applicant's disclosure. *Id.*

The burden of showing obviousness of a proposed modification is satisfied only by a particular reason why such a modification would be obvious. A general incentive does not make obvious a particular result. *In re Deuel*, 51 F.3d 1552, 1558-59, 34 USPQ2d 1210, 1215 (Fed. Cir. 1995). An obviousness determination must be based on objective evidence of record, that is, the motivation to modify or combine references must be contained in the references themselves. *In re Sang Su Lee*, 277 F.3d 1338, 1342, 61 USPQ2d 1430, 1433. (Fed. Cir. 2002). This requirement cannot be dispensed with. *See, e.g., Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1124-25 (Fed. Cir. 2000). Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also *In re Fine*, 5 USPQ2d at 1596; *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

A prior art reference is relevant for all that it teaches to those of ordinary skill in the art. *In re Fritch*, 972 F.2d 1260, 1264, 23 USPQ2d 1780, 1782 (Fed. Cir. 1992). Each prior art reference must be evaluated for what it teaches as a whole, and all of the prior art must be evaluated together in the eyes of one of skill in the art. *Panduit Corp. v. Dennison Mfg. Co.*, 774 F.2d 1082, 227 USPQ 337 (Fed. Cir. 1985), *vacated and remanded*, 475 U.S. 809, 229 USPQ 478 (1986), *on remand*, 810 F.2d 1561, 1 USPQ2d 1593, (Fed. Cir.), *cert denied*, 481 U.S. 1052 (1987).

Limitations on the combination or modification of references and the motivation therefor must always be kept in mind by the Examiner. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). The level of skill in the art, without more, cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161, 1171 (Fed. Cir. 1999).

At the outset, we note that no cited reference discloses or suggests the use of aluminum particles having an undefined configuration, a term known in the art.

Sobajima broadly discloses the use of pigments and additives, but does not mention aluminum particles. In particular, Sobajima discloses a high proportion of talc (up to 80 pbw) and the use of other fillers in general. The object of the Sobajima patent is to improve mechanical properties of a thermoplastic olefin using talc filler.

Brehm discloses that glitter effects are observed when using pigment particle sizes of 80-100 microns, col. 1, lines 43-44. Each embodiment of Brehm requires the presence of a lustrous pigment as well as filler particles. The lustrous pigments include nacreous pigments, aluminum platelets, silica platelets, and iron oxide platelets. Filler particles have hollow, solid or compact particles having a substantially isometric body and diameter of 10 to 200 microns. The filler

particles are present at a rate of 0.2 to 10 parts by weight. The object of Brehm is to provide a glitter effect; this object is achieved by adding filler particles having a substantially isometric body shape to the plastic, in addition to the lustrous pigment. The filler particles have a diameter of 10-200 microns. Brehm discloses that the **only** range of aluminum particle sizes that produce a glitter effect (i.e., lustrous pigments) is 80-100 microns. Additionally, Examples 1, 2, and 3 disclose TiO₂-coated mica pigments having a particle size of 5-25 microns. It is only the **filler** particles, and **not** the pigment particles that are disclosed as being 10-200 microns. It appears that the Examiner has misquoted the teachings of the Brehm reference. Hence, all of Brehm's lustrous pigment sizes (aluminum particles and TiO₂-coated mica) fall far outside the instantly claimed range (about 200 to about 400 microns).

Applicants note next that the object of the Skubon patent is to produce a cured metal-filled resin composition having the appearance of cast iron, not a glittering or lustrous appearance. The instantly claimed polymer blends are not cured. Further, while the use of aluminum particles is envisioned, the disclosed particle sizes are mesh size 400 to 150 (Tyler Sieve) which equates to 38-106 microns, and hence falls outside the instantly claimed range (about 200 to about 400 microns). It appears the Examiner has misquoted the teachings of the Skubon reference. Further, flakes or platelets are not suitable, as contended by the Examiner, see col. 7, lines 57-58. While Skubon discloses a variety of particle shapes, the overriding concern is that "the configuration must permit adequate compaction of the particles to prevent the presence of quantities of resin between same being readily visible to the eye and thereby not appear to be a cast metal," col. 7, lines 64-67. Imparting a cast metal appearance to a resin is the purpose of the invention. It is apparent to those skilled in the art that a cast metal will not be lustrous. Hence, Skubon is not helpful in constructing the Examiner's rejection.

Sobajima is generally cited for its disclosure of a talc filled polymer. While each of Brehm and Skubon disclose aluminum particle sizes, their particle sizes fall well outside the range instantly claimed. Because the pigment particle sizes in Brehm and Skubon fall outside those instantly claimed, the only motivation for combining the references to reject the pending claims is Applicants' disclosure. Such hindsight reconstruction is expressly forbidden. Further, their combination with Sobajima fails to disclose or suggest all limitations of the rejected claims. Based on the foregoing, it is considered apparent that the combination of the Sobajima, Brehm and Skubon references fail to disclose all elements of the rejected claims, and fail to provide

motivation for making the combination. Applicants submit that claims 1-7 are thus patentable over the combination of Sobajima, Brehm and Skubon.

Claim Rejections – 35 U.S.C. § 103(a) (Sobajima/Brehm/Skubon/Bushelman)

The Examiner next rejected claim 1 as obvious over a combination of the Sobajima, Brehm, and Skubon references, in further view of Bushelman, U.S. 2006/0014876. In addition to the Examiner's position set forth above, the Examiner adds that Bushelman discloses molded articles including aluminum flakes having a diameter of greater than 200 microns.

The citation of the Bushelman reference adds nothing to the other three references to support the Examiner's position. The Examiner fails to note that Bushelman relates to liquid crystal polymers used in polymeric cookware, where the aluminum flakes are included to improve thermal conduction. This reference is wholly unrelated to the present invention. "A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem," *In re Clay*, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992). No one working in the art of molded and extruded metallic effect polymers would look to a disclosure relating to coatings on cookware comprising liquid crystal polymers, which include "wholly aromatic polyesters, aromatic-aliphatic polyesters, aromatic polyazomethines, aromatic polyester-carbonates and partly or wholly aromatic polyester-amides. Typically, LCPs are prepared from long and flat monomers which are fairly rigid along their molecular axes. These polymers also tend to have coaxial or parallel chain-extending linkages therebetween. To be considered wholly aromatic, each monomer of an LCP must contribute at least one aromatic ring to the polymeric backbone," paragraph [0005]. The polymers of Bushelman are unrelated to the polymers instantly claimed (olefinic thermoplastic polymers).

In essence, by citing Bushelman, the Examiner has found a patent disclosing the existence of aluminum particles having an average particle size larger than 200 microns, with no other connection to the other three references, or to the instantly claimed invention. This does not commend itself to combination with any of the other three references. Thus, the combination of the four cited references fails to disclose all elements of rejected claim 1, and one skilled in the art would not be motivated to combine them as the Examiner has done.

Applicants expressly acknowledge that rejections based on previously cited references have been overcome.

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application. If there are any additional fees resulting from this communication, please charge the same to Deposit Account No. 18-0160, Order No. FER-15402.

Respectfully submitted,

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